

# American Fruit Grower

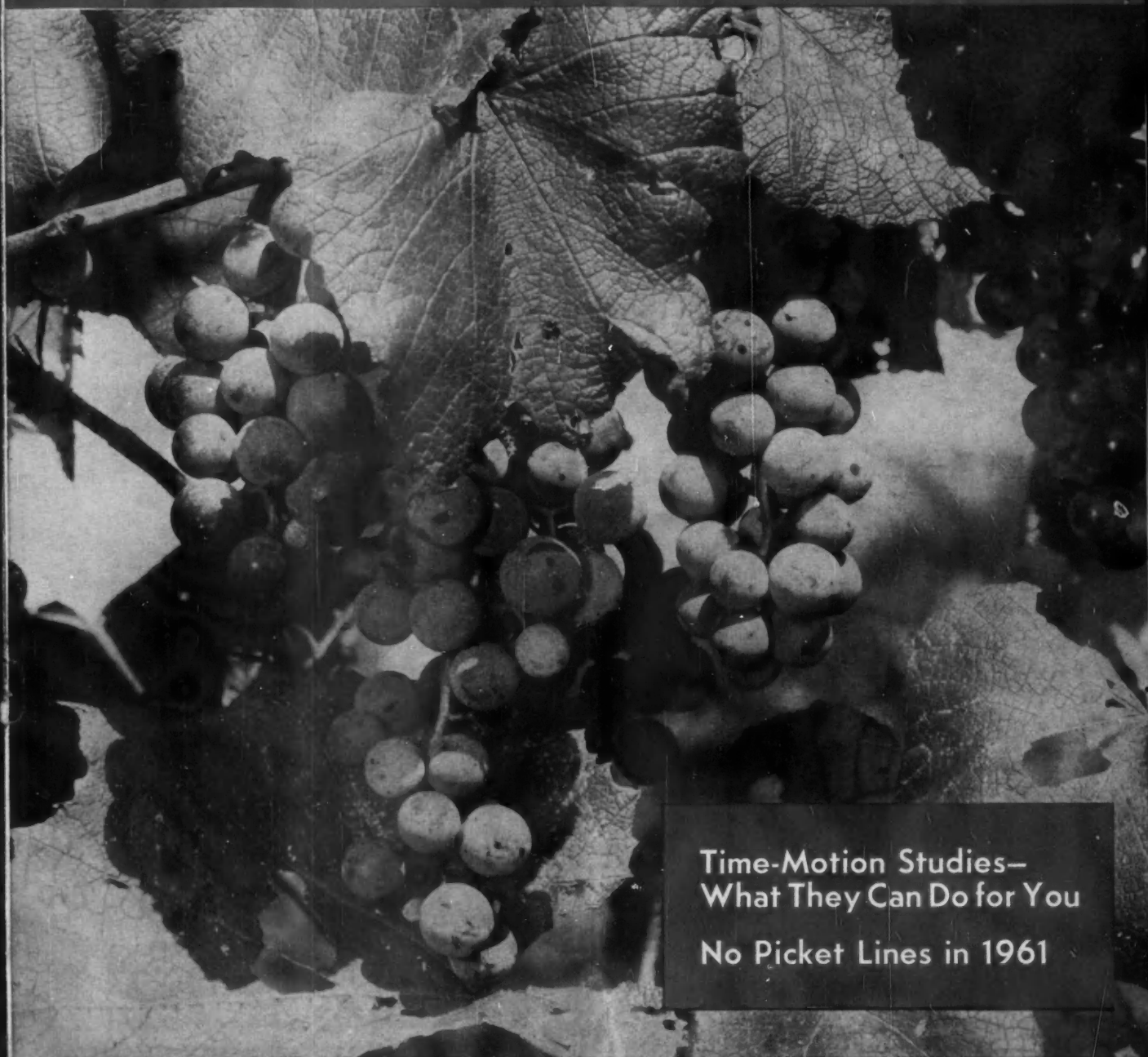
AUGUST • 1961

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Time-Motion Studies—  
What They Can Do for You  
No Picket Lines in 1961

Stepping Up the Grape Harvest—See page 9

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# American Fruit Grower

Cover photo showing clusters of grapes is by J. C. Allen and Son.

VOL. 81

AUGUST, 1961

No. 8

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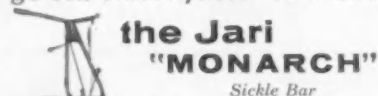
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# LETTERS TO THE EDITOR

## A Real "Whopper"

Dear Editor:

I was very much interested in the letter you published from Allan Eckert on the big grape vine which grew one mile west of Rushville, Ohio. Recently I had occasion to spend some time going over the Chillicothe area and succeeded in getting the exact location of this mammoth vine.

Perhaps you would like to put another note in your letters column stating that some of the local historians were acquainted with this remarkable plant. Robert L. Hyde says that James Devine and his brother, Augusta, cut the vine, and he says that there was much more wood in the trunk by one-third or one-fourth than is reported in your article. The vine covered 3 to 4 acres, he says.

The soil where the vine was growing has a black, glacial fill, seems to be well aerated, and is of such a nature that it would support an extensive growth of the type reported in the letter. It is unfortunate that this vine could not have been spared, because it was a landmark comparable to the General Sherman tree in California or the Old Grizzly.

Urbana, Ill.

M. J. Dorsey

## True Royalty!

Dear Editor:

Under separate cover I am sending a sample package of Windmill Orchard's "Queen of All Fruits." The variety: Erly-Red-Fre.

We have found that cell packs provide the most practical means of shipping ripe peaches. Each peach is cradled in an individual padded cell in a crinkle cup.

The "Queen of All Fruits" is allergic to pressures other than her own weight, and we feel that with this separating method, our peaches arrive as nature made them, "at their best."

Hope you enjoy the taste treat.

Columbia, S.C. Captain R. W. McNeely  
*We did! Best we ever ate!—Ed.*

## "Graftlings" Have to Grow

Dear Editor:

We have received several letters asking where trees may be obtained of the new blight-free, hardy chestnut varieties Essate-Jap, Kelsey, and Sleeping Giant, which were announced in the March, 1961 issue of AMERICAN FRUIT GROWER, and we feel that a statement about the situation is in order.

Neither trees nor scionwood of these varieties is presently available. Several years must elapse for the nurseries to have time to raise Chinese seedlings and graft the new varieties upon them and also for the "graftlings" to have grown large enough to furnish a supply of scions for distribution.

Wallingford, Conn. Arthur H. Graves  
Connecticut Agricultural  
Experiment Station

## We Need Stronger State Groups

Dear Editor:

I think you have hit the nail right on the head with your article on National Peach Council in the April issue.

The trouble with the national organization lies in weak state organizations. When this is remedied, progress will be rapid.

Carbondale, Ill.

Robert B. Rogers

Dear Editor:

Thanks for the wonderful story on the National Peach Council meeting. We must become more solidly organized on the state basis.

Hancock, Md.

R. Samuel Dillon, Jr.

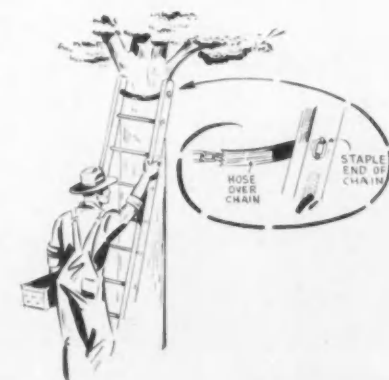
## LADDER SAFETY PAYS

**D**ON'T be an orchard fall guy! In California two fruit pickers died in falls from ladders in 1959 and 1678 others were disabled. These shocking statistics could have been avoided if ladder safety had been practiced.

A ladder's purpose is so obvious that few growers bother to learn safe methods for using this orchard tool. Here are some handy rules that may prevent a costly accident in your orchard this picking season:

- Use an orchard ladder for orchard work. Be sure that it is long enough. Don't use a makeshift substitute.
- Make sure that the ladder is in good condition. Look for cracks, splits, breaks. See that it will stand rigid. If it's faulty, repair or discard it.
- Use the ladder safely. Place it firmly and carefully. Don't lean from ladder or overreach. Face ladder

when going up and down. Don't hurry. Never work on ladder above second rung from top.



Here's one way to avoid being an orchard fall guy. Simply remove top rung of ladder and insert in its place a piece of chain encased in a piece of rubber hose. Chain fits contour of tree and rubber hose prevents slipping.

AMERICAN FRUIT GROWER



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Summer sprays of TRITHION insecticide-miticide control mites on a wide variety of fruits. They also control certain insects.

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and against mites, aphids and scale insects on walnuts. Furthermore, it's effective against mites and leafhoppers on grapes.

Under West Coast conditions, post-harvest applications of TRITHION keep deciduous trees in good condition during the late summer and early fall period. Overwintering populations of aphids, leafhoppers, scales, mites and mite eggs are greatly reduced.

For further information, see your dealer or write to Stauffer Chemical Company, 380 Madison Avenue, New York 17, N. Y. or 636 California Street, San Francisco 8, Calif.


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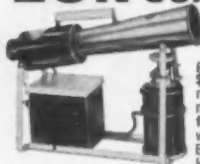
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### New Regular Tread Specials

825x20 10 ply 1st	\$59.50
900x20 10 ply 1st	69.75
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1000x22 12 ply 1st	92.50
780x19 8 ply 1st	24.50
750x17 8 ply 1st	48.00
750x20 8 ply 1st	45.00

### USED TRUCK TUBES

650x20	700x20	\$2.50
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AIR TIGHT Larger Sizes \$4.00

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## Calendar of Coming Meetings & Exhibits

Aug. 17—Minnesota and western Wisconsin fruit growers' orchard tour, Fruit Acres Orchards, LaCrescent, Minn.—J. D. Winter, Sec'y, Minnesota Fruit Growers Association, 719 S. E. 5th St., Minneapolis, 14.

Aug. 20-23—American Institute of Co-operation summer session, University of Minnesota, Minneapolis.—E. Fred Koller, Committee Chairman, University of Minnesota, Minneapolis.

Aug. 21-23—Northern Nut Growers Association annual meeting, Pennsylvania State University, University Park.—W. S. Clarke, Jr., Department of Pomology, Pennsylvania State University, University Park.

Aug. 22-23—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster.

Aug. 25—Maine Blueberry Festival, Union Fair Grounds, Union.—Ivan Sherman, Chairman, Union.

Aug. 27-30—American Society for Horticultural Science annual meeting, Purdue University, Lafayette, Ind.—Roy E. Marshall, Sec'y-Treas., Michigan State University, East Lansing.

Aug. 31-Sept. 8—XVI International Horticultural Congress, Brussels, Belgium.—General Secretariat, 233, Coupure Links, Ghent, Belgium.

Sept. 19—Citrus Processors' annual meeting, University of Florida Citrus Experiment Station, Lake Alfred.

Sept. 14-16—Texas Citrus & Vegetable Growers & Shippers Convention, Shamrock Hotel, Houston.

Sept. 27-29—Florida Fruit & Vegetable Association convention, Hotel Americana, Bal Harbour.—J. Abney Cox, General Convention Chairman, Princeton.

Oct. 1-4—Produce Packaging Convention and Exposition, Chase-Park Plaza Hotel, St. Louis, Mo.—Robert L. Carey, Exec.-Sec'y, Produce Packaging Association, P. O. Box 29, Newark, Del.

Oct. 12-21—National Apple Week.—Norbert Eschmeyer, Manager, National Apple Week Association, 1302 18th St., N. W., Washington 6, D. C.

Oct. 29-Nov. 1—National Agricultural Chemicals Association annual meeting, The Homestead, Hot Springs, Va.—L. S. Hitchner, Executive Sec'y, 1145 19th St., N. W., Washington 6, D. C.

Oct. 30-Nov. 2—Florida State Horticultural Society annual meeting, Barcelona Hotel, Miami Beach.—Ralph P. Thompson, Pub. Sec'y, Winter Haven.

Nov. 6-7—Washington State Weed Conference, Chinook Motel & Tower, Yakima.

Nov. 15-17—Oregon State Horticultural Society annual meeting, Oregon State College, Corvallis.—Andrew A. Duncan, Sec'y, Oregon State College, Corvallis.

Nov. 20-21—Illinois State Horticultural Society annual convention, Abraham Lincoln Hotel, Springfield.—Bob Rogers, Sec'y-Treas., 305 W. Walnut St., Carbondale.

## ALL ABOUT SEEDS

THE 1961 Yearbook of Agriculture, published by USDA, is devoted to the single, broad subject of seeds. In *Seeds*, 128 experts explain in layman's language the importance, life processes, production, processing, certification, testing, and marketing of seeds.

The yearbook gives much practical information for farmers, gardeners, seedsmen, students and others on the seeds of hybrid corn, sorghum, rice, wheat, grasses, sugarbeets, other field crops, vegetables, flowers, and trees.

Single copies of *Seeds* may be obtained from your congressman. Additional copies may be purchased for \$2 each from Superintendent of Documents, Government Printing Office, Washington 25, D. C.



Tray packer designed by Pennsylvania State University eliminates handling of each apple.

# TIME-MOTION STUDIES Can Help You

**Is your fruit being packed with the least amount of time and effort? A time-motion study may show where you can cut costs**

**By R. A. OLSEN**

*Pennsylvania State University, University Park*

**C**OST reduction is a never-ending search, as every fruit grower is aware. A saving of \$1000 a year in true cost is equivalent to an increase in net profit of \$1000 before taxes. To return an equivalent increase in profit through increased sales would in most businesses require an increased sales volume of \$10,000 or even more.

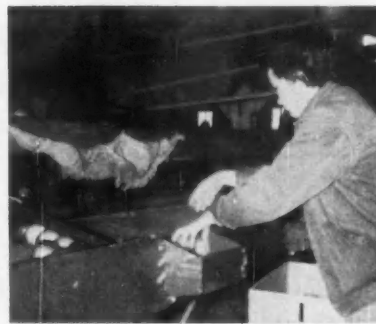
A thoughtful observer of both manufacturing and fruit growing would have to say that fruit growing in 1961 is about where manufacturing was in 1901. This statement is not meant in any derogatory sense, as will be seen.

The modern fruit grower, to compete in today's market, must be a highly competent individual. He must know something about soil, weather, seeds, trees, fertilizers, sprays, dusts, insects, and diseases, as well as something about marketing and advertising.

He must also be conversant with conveyors, lift trucks, equipment selection, training of personnel, work loads, scheduling, packing, and shipping. In short, the 1961 fruit grower must have an extremely broad background of knowledge to succeed.



How many times an hour do your fruit packers have to make costly, "body motion" reaches?



Cutting down on hand and arm movements will increase worker output, decrease fatigue.

There are three simple classes of techniques used by most manufacturers which can be used directly by the fruit growing industry. These are: 1) methods analysis and motion study, 2) work measurement, and 3) equipment replacement analysis.

Methods analysis and motion study are common sense, systematic procedures aimed at eliminating waste of human effort and at reducing fatigue.

An illustration of the application of methods analysis is shown in a USDA pamphlet regarding inspection of apples at a sorting table. The authors point out that by the simple expedient

of providing lanes, and confining the operator's eye fixations (inspection) to a narrow area, production can be increased and quality improved.

They also point out that better inspection at the sorting table will reduce costs at the packing table. A packer who does not have to inspect each apple will pack substantially more bushels than one who is asked to inspect each apple.

Motion study may be defined as the careful analysis of the various body motions used in doing a job for the purpose of eliminating unnecessary  
(Continued on page 14)

# NO PICKET LINES IN 1961!

**Agricultural Workers Organizing Committee has been dissolved in California. Here's the story of how growers defeated the union**

**By WILLIAM J. MONAHAN**  
*Special California Correspondent*

**T**HE labor organizing campaign of AFL-CIO in California, the nation's richest farm state and most prolific employer of hired farm workers, has collapsed. After 30 months of union activity and 18 months of bitter strife and strikes, Agricultural Workers Organizing Committee has been dissolved by order of AFL-CIO executive committee on the grounds it has failed to make a dent in the floating labor force that annually produces \$3 billion worth of food and fibre in California.

The futile gambit to bring the 2 million hired hands of U.S. Agriculture into the labor union fold cost AFL-CIO coffers \$500,000 in organizing funds. It probably cost California farmers as much as \$5 million in lost crops, extra labor charges, and labor battling expenses. But in 1961 the California fruit harvest will be accomplished without the aggravations, frustrations, harassments, court battles, and picket lines that marked the entire 1960 season.

The California farmer defeated Agricultural Workers Organizing Committee by the simple, stolid technique of refusing to recognize AWOC as the bargaining agent for his workers. AWOC staged 100 strikes in 1960 and another 30 in the spring and winter harvest of 1961 but won only a few verbal contracts from isolated olive growers and a few agreements from cherry speculators in the recent season.

According to AFL-CIO President George Meany it never signed up more than 3500 union members although Norman Smith, director of the long AWOC campaign, claims there were as many as 12,000 card holders. Both are probably right. Meany was talking of dues-paying members and Smith of workers who

were willing to tuck free union cards in their pockets.

On June 29, 1961, at Unity House, Pa., Meany announced that the agricultural workers union was finished. It will take two or three months to dismantle the organization which was headed by Smith and had about 20 paid organizers on its payroll.

The dissolution of AWOC does not necessarily mean total labor peace in California. In some areas United Packinghouse Workers Union and Amalgamated Meat Cutters are expected to absorb some of the AWOC members and in the background Teamsters Union still hovers as the possible heir to labor organization results.

What success AWOC had was among migrant workers who follow the crops from one end of California to the other. The hard core of 200,000 hired hands who work year-round in fairly stable agricultural employment were never sympathetic to the union movement.

Still, the union drive has had its results in California. It drove the price of labor upward by as much as 25% and it won't be surprising if the average hourly wage for the present season tallies out at \$1.30. It improved employment techniques immensely. And it stimulated mechanical handling of fruit to the point where it is generally agreed practically every canning commodity and many fresh products will be automated within five years.

A main campaign goal of AWOC was destruction of the Mexican bracero program. This drive never succeeded and in good logical commonsense, recognized by almost every agricultural economist and engineer, could not succeed in the face of the nature of the farm labor pool in the United States, particularly in the West. But it affected usage of braceros enormously and the future of the program will be hinged more

tightly to necessity and efficiency than ever before.

There is little question that the AWOC movement failed on two sharp-toothed shoals: The deeply ingrained reluctance of the California farmer to become a partner in a labor movement and the unwillingness, probably the inability, of the typical migrant farm worker to adapt to an industrial type union.

Farmers are not sure their labor troubles are over. "Agriculture is not tearing down its forts because one band of marauders has been wiped out," O. W. Fillerup, director of California Council of Growers, declares. "Agriculture knows that there are many more shadows lurking outside the doors."

Norman Smith, AWOC director, hinted darkly that Fillerup's suspicions might be correct. "I feel there's going to be a farm union," Smith says. "I feel the workers in the field are going to form a group and ask somebody to take them in. There has been a lot of misunderstanding on the part of some people not familiar with the farm labor problem on just how big this problem is."

Smith is thinking of staying in California and of offering his services to some other union, such as Meat Cutters or Packinghouse Workers. A long time union organizing pro and a colorful orator on street corners or in TV studios, Smith holds to the theory that the stimulus for unionization should come from the workers. Contrary thinkers believe that Agriculture will be brought into the union fold—if ever—by piecemeal methods of attrition whereby segments of workers are parceled into unions with employer consent.

Regardless, AWOC has run its course in California and will fade away to join a myriad of abortive farm labor movements that date their beginnings back to 1903 when a San Jose association agitated for wages of \$2 a day.

THE END

AMERICAN FRUIT GROWER



Dr. W. J. Clore, at Washington state's Prosser Irrigation Experiment Station, in the "hopped-up" vineyard he developed. Young vines will eventually form a solid overhead arbor 9½ feet above the ground. Canes will be tied to the wires on top.

# Stepping up the GRAPE HARVEST

Quicker, cheaper harvest is promised with new cultural methods, new varieties, new machines

By PAUL LARSEN

Michigan State University, East Lansing

IT takes the equivalent of more people than live in Wilmington, Del., or Austin, Tex., or Lansing, Mich., working 10 hours a day for 20 days, to harvest the grape crop of America—140,000 people. This vast volume of fruit—3 million tons—which is picked, handled, and hauled out of the vineyards of the United States is greater than the total tonnage of apples and is equal to the combined tonnage of all the peaches, pears, plums and prunes, and sweet and sour cherries grown in the United States.

The grape growers of this country pay their harvest labor approximately \$36 million each season and this does not include the added costs and problems of labor procurement, housing, and social benefits. Is it any wonder then that grape growers, as well as other fruit growers are watching, waiting, and eager to try anything that will help reduce their harvest labor requirements?

What is being done? Research workers across the nation are very active in developing new cultural methods, new varieties, and new machines for the grape crop.

In Washington at Prosser Irriga-

tion Experiment Station, Dr. W. J. Clore is attempting to make growing practices and harvesting easier and less time consuming by changing the grape trellis. He has devised a miniature model of the Yakima Valley hop trellis which he terms his "hopped-up" grape trellis.

Vines planted 9x9 feet and 11x11½ feet apart will be trained to an overhead trellis 9½ feet above the ground. The canes will be tied to wires which are 3 feet apart on top of the trellis. The final result will be a grape arbor with a solid mass of horizontal foliage and fruiting surface.

Harvesting will be done from a trailer which moves slowly under the fruiting area. It is hoped that the grape clusters will hang below the dense foliage, thus making them much more accessible than on the standard trellis.

They will be picked into containers right on the trailer so that loading will be eliminated and picking labor will not have to walk through the vineyards to move picking containers. In addition to these savings in labor, Dr. Clore believes that yields and fruit quality will be improved because of the greater exposure of the vines to sunlight.

In California research on new  
(Continued on page 19)



Jordan Levin, USDA agricultural engineer, harvests grapes in a Michigan vineyard with hand-held vibrator, canvas-covered catching frame.



Grape vines at University of California experimental vineyard, Davis, have been trained on an inverted-L trellis for mechanical harvesting.



A defoliant spray applied to this Concord vine a few days before harvest makes the clusters easier to see and pick, speeds up harvesting.

# APPLES

## Water Submersion Dumping

**F**LOAT your apples out of bulk boxes. Growers and apple researchers have found water submersion to be the best way to empty apples from bulk boxes.

In the hard-apple growing regions, bulk boxes are rapidly replacing bushel field lugs. In the Northeast, however, this conversion has not been widespread because the easily injured McIntosh is King. The table shows water submersion dumping confirms the use of bulk boxes, even for McIntosh.

To get into the business, you will need the following equipment: a watertight tank; some mechanism to lower and raise the bulk boxes into and out of the tank; a water circulating pump; a device to move the fruit out of the tank; a fruit washing and drying unit.

Most of the tanks in use are made of steel, but a wood box lined with galvanized iron is satisfactory. Inside depth and width dimensions of the tank should be about 5 feet. About 5 feet of length is needed for the bulk box and the lowering-raising mechanism.

Some of the length may be used for the mechanism to raise the apples out of the tank. The exact number of feet will depend upon the mechanism. The remainder of the length is used to accumulate the fruit so the grader will be provided with a steady flow of apples while the empty box is taken out and the next full box is submerged.

About 4 feet of accumulating space will be needed if the dumping rate is 60 bushels per hour. About 12 feet of accumulating space will be needed for a dumping rate of 250 bushels per hour.

The lower-raise mechanism may be a chain-driven hoist. It may be to the



Apples flow through weir of experimental submersion dumper. A 200-gpm-capacity pump recirculates water through 18-inch-wide weir.

filled bulk box requires a positive force to draw or push it under the surface of the water.

A water pump is used to circulate the water and apples from the back to the front of the submersion tank. The capacity of the pump will depend upon the method used to move the fruit out of the tank.

Bruise counts taken after handling and storage.

Mechanical damage per 100 McIntosh apples	Picker		
	A	B	C
¼-½ inch diameter bruises...	896	498	268
½-inch up diameter bruises	40	73	19
Skin punctures	11	11	9
Total	947	582	296

In the Northeast, two schemes have been used to move the apples out of the submersion tank. If a roller conveyor is used, Dr. I. Pflug, of Michigan State University, recommends not exceeding an angle of 12° between the rollers and the water.

Influence of dumping method on average total mechanical damage accumulated during picking, handling, storage, and dumping of McIntosh apples.

Type	Container Designs tested	Method of dumping	Bruise diameter inch		Skin punctures
			¼-½	½ up	
			per 100 apples		
Field lug	1	Mechanical box dumper	374	26	14
Bulk box	3	Water submersion	470	33	10
	4	Endgate	482	42	20
	2	½ inversion	498	74	32

rear, side, or above mounted hydraulic cylinders. When designing this piece of equipment, remember the

Greater angles increase the danger of large apples rolling back into the water. A circulation pump of 100

gpm is satisfactory for this scheme.

Apples may also be moved out of the tank by floating them through a weir in the end of the submersion tank. A 200-gpm-capacity pump is required to recirculate the water flowing through an 18-inch-wide weir.

Fruit washing and drying equipment may be procured from one of many equipment dealers or may be constructed at home.

**Is bruising your problem?** Your pickers, not your handling methods, are probably the principal cause.

A limited number of reprints are available from the author on 1960 *Experiments with Bulk Boxes for McIntosh and Bulk Handling of McIntosh Apples for the Fresh Fruit Market*. Mimeographs entitled *Guide for the Construction of Bulk Boxes for Handling Apples and Observations of Some Michigan Water Submersion Dumpers for Bulk Boxes* are also available in limited quantity. —G. D. Blanpied, Department of Pomology, Cornell University, Ithaca, N. Y.

## Apple Virus Bulletin

**A** NEW bulletin, *An Illustrated Review of Apple Virus Diseases*, has been published jointly by Maine and New Hampshire agricultural experiment stations. The publication reviews the available literature on apple viruses and gives symptoms, etiology, host range, and geographical distribution of the various apple viruses with excellent illustrations of the disorders. The publication, Bulletin 595, is available from Maine Agricultural Experiment Station, Orono, Maine.

## Steel Squirrel At Work



Robert Knight, Greenville, R. I., goes up on Steel Squirrel (Blackwelder Mfg. Co., Rio Vista, Calif.) for quick look at apples. The self-powered vehicle, operated by hand controls, moves through orchard, raises up to 14 feet.

AMERICAN FRUIT GROWER

# PEACHES

## Redtop Peach

A NEW freestone peach variety named Redtop has been released to nurserymen by USDA. Fruit of this variety has unusually firm flesh which makes it especially suitable for shipping.

Redtop has been tested primarily in California, but developers believe it might do well also in some other peach-growing areas. However, they recommend test planting a few trees before expanding to larger plantings.

The new variety ripens about three and one-half weeks before Elberta, blooms about the same time as July Elberta. Redtop is good for canning, freezing, and fresh market sales.

Information on sources of budwood may be obtained from John H. Weinberger, U. S. Horticultural Field Station, Fresno, Calif. A few trees may be available to growers from nurserymen in the fall of 1961.

# BERRIES

## Plastic Mulch for Blackcaps

NEWLY planted black raspberries frequently are slow in starting growth, especially after a prolonged period of storage and late planting. At Virginia Agricultural Experiment Station, Blacksburg, last year, black plastic mulch was tested to determine its benefits, if any, to growth of Bristol plants that had been held in cold storage for three months and transplanted in the field.

Transplanting was done May 31, at which time very small sprouts had started on the crowns. Plots contained four plants each with eight replications, suitable randomization, and buffer plants.

The soil had been prepared and fertilized with 10-10-10 at the rate of 900 pounds per acre. As soon as the soil was tillable after a rain, the plants were set 33 inches apart in rows.

The old canes or "handles" were cut back to approximately 2 inches long and then the black plastic was applied over the 3x16-foot plots. A 3-inch cross was cut through the plastic at each plant after which the old canes were cut off even with the ground. The new canes grew up through these holes in the plastic.

At the end of the first growing season, mulched plots averaged approximately 2.3 times as much plant

growth as the unmulched checks. Comparing mulch with no mulch, significant differences were noted for total length of all growth, length of laterals on the primocanes, and number of laterals on the primocanes. Less difference was noticeable in length of primocanes and no difference was found in number of primocanes.

Plastic mulch controlled weeds except for an occasional plant that grew up through the hole next to the raspberry plants. Weeds grew rather profusely along the edge of the plastic where tillage was difficult.

Soil moisture retention appeared to be the most important benefit derived from plastic mulch. Moisture under the mulch remained at optimum levels as compared with frequent drought conditions in unmulched plots during this relatively dry season when much of the rainfall occurred as showers.—R. C. Moore, Virginia Agricultural Experiment Station, Blacksburg.

## Strawberry Sled



This novel idea of how to take the backache out of strawberry picking was conceived by Olin Dukes, Plant City, Fla., shown in photos. The one-wheel, sled-like cart, which is hitched to the back of a tractor, was built under Dukes' direction at a local welding shop for about \$25.



By HENRY BAILEY STEVENS

**Birds, Apples, and Berries** LOOKING hard at our June cover, Patricia Culver, of Rochester, N. Y., hopes that Juicy Boy's apple is a ripe Mac and that he will not get one of those green-apple tummy aches which many foolish little men suffer once a year after raiding an orchard prematurely.

"Birds are wiser in this respect," she remarks. "They seem to have a built-in intelligence to know when a fruit is ripe. How many times they outfox the scarecrow to sample my berry patch the very day I was to pick the first ripe crop!"

Curiously enough, the answer to this problem may be to feed the birds apples instead. Ed Rasmussen has just told me that he put out a peck of overripe remnants from the storage chamber, laying the apples in the rows alongside the ripe strawberries.

Catbirds, robins, and starlings came to the party, and pecked the apples to pieces without touching the berries at all. Seems like one good fruit deserves another.

**Passing on the Torch** I HAVE just been reading a fascinating book of rural essays, *Here Is My Harvest*, by Wendell T. Card, a Pennsylvania farmer (Exposition Press, N.Y., 1959). Neighbors, crops, wildlife and nature in general make it a regular harvest festival.

For example: "Martin borrowed a blowtorch from Hugh. That night he left it in his barn. By morning the barn was only a smoking heap of ashes.

"It was a fine barn, and a good portion of Martin's life savings had been tied up in it. I doubt if much insurance had been acquired—if any. Friends and neighbors who were at the fire quickly contributed a substantial sum of money as an expression of sympathy.

"And Hugh? Hugh insisted that Martin should replace his blowtorch. I never heard Martin mention the incident, but Hugh complained to me afterward that the replacement was not as good as the original."

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

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## TIME-MOTION STUDIES

(Continued from page 7)

motions and of simplifying necessary motions.

Whether a person is picking apples, driving a tractor, packing apples, or performing any other kind of work, he will go through a series of fundamental motions. Research has indicated that these fundamental motions can be grouped into 17 basic divisions of accomplishment. The most common of these basic divisions are reach, move, grasp, release, hold, assemble, position, and use.

Careful planning of packing shed work stations with these basic divisions in mind will result in effective motion patterns. The necessary work will be accomplished more easily with less fatigue, and the rate of output increased.

The pictures illustrate common violations of the principles of motion economy. Motions of the hands should be made systematically and simultaneously away and toward the center of the body.

This can be demonstrated to yourself by moving both hands from left to right rapidly in the same direction, and then changing quickly to opposite and simultaneous motions. The difference in the amount of work required of the stomach muscles is remarkably evident.

**Both patterns are common** in the tray packing of apples. Which set of motions will cost less, for the same output? The answer is quite obvious.

Holding parts in position should be done by fixtures. A common violation of this principle is found in the bagging of apples. The operator is required to hold the bag with one hand, twist it tight with the other.

Many fruit growers have eliminated this holding and twisting by introducing stapling machines. But even these do not eliminate the problem if improperly installed.

Fixed locations should be provided for all tools and materials. Pretty obvious, and almost trite, but test yourself. Are all your tools in your home workshop in place right now? Can you always find them when you want them? If you can't, chances are your operators' work places are similarly unplanned.

The operation should be confined to the smallest number of motions possible and should be predominantly hand and arm motions rather than the more time-consuming body motions. Look around your shed. How many times an hour do your operators have to make such long reaches?

**All materials and tools** should be located within the normal working area. The normal area is the area outlined by placing the elbows in a nor-

mal position on the work table and pivoting them around in a relaxed fashion. A good example would be the placing of cull chutes at an operator's finger tips vs a cull conveyor down the middle of the sorting table 24 to 30 inches away.

One bit of motion study research at Pennsylvania State University resulted in the tray packer illustrated. Most fruit growers have their operators pick up each apple and place it in the box. The packer shown eliminates these motions. It measures out the proper quantity of apples for each tray, gently releases them onto the tray.

Experienced fruit growers who have seen this have stated that bruising is less than with manual methods. Production is about double.

An experienced carpenter can build one of these in about 70 hours. Material costs are about \$30. Much less time would be required, of course, if the grower wanted to build several at once.

Plans are available by writing to Industrial Engineering Department, Pennsylvania State University, University Park, Pa. A \$2 fee is requested to cover the cost of blueprint paper and handling charges.

**Work measurement** is a general term including all ways of determining daily quotas. Time study with a stopwatch is the most widely known of these techniques, but can be quite misleading in inexperienced hands.

Other methods of measuring work have been developed in the manufacturing industries over the past 20 years which have generally yielded more consistent results. Consistency is synonymous with fairness when applied to daily quotas. How can work measurement help the fruit grower?

Work measurement gives your foreman a fair standard or quota to use in the operation of the packing shed. Most people like to know what

is required of them. A fair and honest answer means good working relations as well as low costs.

The most common use of work measurement is for the purpose of developing wage incentives, such as piece rates. However, work measurement can also be extremely useful as an analytical tool.

For instance, how often have you seen your girls waiting for work in the packing shed? If you were to compare the work they do produce against the work they could produce with a continual flow of apples, the ratio might be surprisingly low. When this comparison has been made in industry for similar work, ratios of .30 to .50 are not uncommon.

This means that if you could balance your work load through proper assignment of people to work stations, labor costs of packing would drop appreciably. This saving might approach 50%, or even more, particularly where return flow belt storage between operators is small.

**The question of equipment replacement** is deceptively simple. With relatively short-lived equipment such as conveyors, packing equipment, and grading machinery, balancing first cost against expected savings over a specific pay-off period is the most effective method.

The question of first cost is easy to answer with commercial equipment, but the determination of length of pay-off period and expected savings can be perplexing and requires considerable judgment.

The length of pay-off period to require is determined by the amount of money the fruit grower can afford to release for equipment purchases. If capital is short, the period is reduced. Thus, the owner can use this method of sorting equipment which will return original investment rapidly, from equipment that is attractive but not economical.

Expected savings depend primarily on how well the owner can predict productivity. It is important here to make one's own determination in the light of actual conditions, rather than dependency on equipment manufacturers' claims or other people's experience. This is important information, but must be tempered by one's own conditions.

Costs can be reduced and profits improved if the fruit grower can learn how to organize his business on a functional basis. He will also gain cost advantages if he can apply principles of methods analysis, motion study, work measurement, and equipment replacement analysis in his everyday operation. To work these principles into his business, the grower must choose a course of action that is right for him.

THE END.



**TREE BRACE TOTTER**

Howard Martin, Waterford, Calif., designed this trailer from an old truck frame to transport tree braces to and from the orchard. A fork lift loads and unloads the braces saving hours of labor—F. Leland Elam.

## Keyes new Ful-Vue® Pak will pick up your fruit sales

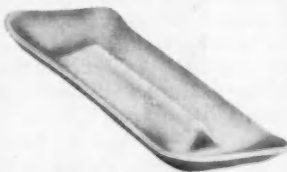
Packaging catches a woman's eye, makes her buy. That's why more and more fruit buyers are looking for pre-packaged fruit. In addition they've learned that pre-packaged fruits have fewer bruises because they're handled less.

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# STATE NEWS

## CALIFORNIA

### Heat Wave Losses

**D**AMAGE to fruit crops from the heat wave that struck the Golden state in the middle of June is estimated at more than \$10 million. Hardest hit were Thompson Seedless grapes, apricots, and boysenberries in the San Joaquin and Sacramento valleys.

Girdled Thompson Seedless suffered the greatest damage from sunburn, particularly in vineyards where they had been clean cultivated, leaves were pulled, and clusters thinned. Some plum damage from sunburn was also reported and peach growers are concerned that the heat may have caused reduction in sizes.

## WISCONSIN

### NAI Plans Ahead

**M**ORE than 200 apple growers from over 20 states attended the 1961 annual meeting of National Apple Institute at Brown's Lake Resort in Burlington to discuss ways they might best promote the sale of this year's crop.

In addition to hearing talks and reports from more than two dozen speakers, they elected officers for the coming term, paid tribute to Patterson Bain, NAI's executive vice president who retired July 1, and laid plans for an active season.

One of the special committees which reported was the Market Research Committee whose spokesman was Robert M. Walsh of USDA. He explained the committee's plan to test the influence of color variation on apples sales. The research will be conducted in co-operation with USDA's Market Development Research Department.

Officers elected at the meeting were



Larry Seaman, Clarklake, Mich., (left) NAI's new president, receives congratulations from retiring president, E. M. Jones, Washington, Va.

Larry Seaman, Clarklake, Mich., president; William H. Darrow, Jr., Putney, Vt., vice president; Marion Johnson, Williamson, N. Y., treasurer; and William M. Lott, Gardners, Pa., secretary.

## MINNESOTA

### August Orchard Tour

**M**INNESOTA and western Wisconsin fruit growers have planned an orchard tour for August 17. They will start at Fruit Acres Orchards in La Crescent at 10 a.m.

Plans call for visits to fruit farms to observe bulk handling of apples,

### PEAR PRICES SET

California canners agreed July 13 to pay \$90 a ton for Bartlett pears, \$88 for Hardy pears, and \$72 for hail grade. These prices for the 300,000-ton 1961 crop are \$6.50 above last year's best payment.

The Golden state's first apricot bargaining co-operative has been formed. Named Apricot Producers of California, Inc., it elected Vince Garrod, Saratoga, its first president. Speaking for the co-op, Garrod said that direct negotiations with canners on quality control and price will be tried before plans are directed toward a commodity marketing order.

a new 40,000-bushel apple storage, mist spraying, and East Malling and Malling-Merton stocks. Growers will also have an opportunity to see a machinery and equipment display.

A program is available from J. D. Winter, Secretary, Minnesota Fruit Growers Association, 719 S. E. 5th St., Minneapolis 14.



### OSHS SUMMER MEETING

Officers of Ohio State Horticultural Society which held its summer meeting June 22 in conjunction with annual meeting of Ohio Apple Institute at John Stoner Orchard, Utica. Seated left to right: Samuel A. Patterson, Chesterland, first vice-president; C. W. Ellenwood, Wooster, president and secretary; Thomas Price, Newark, second vice-president. Standing, left to right: I. P. Lewis, New Waterford, treasurer, and Thomas E. Fowler, Wooster, assistant secretary.

## MICHIGAN

### Seal of Quality

**T**HE "seal of quality" bill, which was rejected by the legislature for 12 years, has finally been passed for the state's agricultural products.

Designed to promote merchandising of apples, peaches, cherries, and other farm produce, the bill was supported by Michigan Farm Bureau and other farm organizations as a means of gaining better out-of-state recognition for Michigan's products.

Under the new act a label or tag will be attached to farm products which meet the State Agriculture Department's standard of quality. Cost of administering the act will be borne by growers in the program.

# PACKAGING & MARKETING

### Agribusiness at Work

**P**ERHAPS 1961 will be a milestone in the marketing history of the Appalachian fruit belt. Why? E. W. "Pete" Lins, manager of Appalachian Division American National Growers Corporation, gives the answer:

Several years ago, M. Philip and W. Thomas Davis, California attorneys, with vast holdings of agricultural lands, turned farmer. Early in their new career they recognized the need of close alliance with packing and marketing specialists.

Their quest brought them to Eadington Fruit Company, owned and operated by brothers Tom and Paul Eadington and D. A. Collins. These five men formed the Davis-Eadington group.

Later this group formed Western Fruit Growers Sales Company, of Fullerton, Calif., a citrus marketing organization. In 1959 they purchased American National Growers Corporation, a nationwide marketing organization, the outgrowth of American Fruit Growers, Inc., which was organized by eastern interests in 1919.

Coming east in March, 1960, the Davis-Eadington group purchased, for \$2 million, the Dillon Orchards of Hancock, the largest orchard in the state of Maryland. By 1970 production in the Dillon Orchards is expected to reach over a million and a quarter bushels.

The group continued to add to their holdings by purchasing, in August, 1960, the \$1.1 million Trexler

Orchards near Allentown, Pa., which comprises 1600 acres.

Fruit from the Davis-Eadington orchards will be marketed exclusively by American National Growers Corporation, an affiliate of Blue Goose, Inc., famous for its Blue Goose trademark used on the "best of the better crops."

ANGC marketing services will also be extended to growers in the Appalachian fruit belt willing and able to meet the corporation's quality standards. Through a licensing

#### BLUE GOOSE NAME CHANGE

**B**LUe Goose Growers, Inc., is the new name of American National Growers Corporation, according to a recent announcement.

The move is designed to place increased emphasis upon the 42-year-old Blue Goose trademark to strengthen promotional efforts, build consumer awareness, and focus attention on a revitalized expansion program.

agreement these growers may use the Blue Goose trademark. Such an arrangement will afford a centralized four-state fruit marketing unit with the continuity of supply that is required by today's high volume buyers.

Pete Lins points out that the men in the Davis-Eadington group are neither reformers nor idealistic dreamers. They are business farmers who, having experienced problems caused by disorganized grower marketing, are solving them on a national scale. Their entrance as one of its largest producers portends a new and advanced era in marketing for the Appalachian fruit belt.

#### Tote Bag



Easy to fill and easy for the customer to carry are the new strap handle bags introduced by Crown Zellerbach Corp., 1 Bush St., San Francisco, Calif. Available in 2- to 10-pound sizes in 50 and 60 basis weight, in black, green, white, yellow, and brown. Six-ply strap is secured by special adhesive, is stronger than tough fiber kraft bag itself.

AUGUST, 1961

## FRUIT-O-SCOPE

SPECIAL MARKET REPORT AUGUST, 1961 AMERICAN FRUIT GROWER

Apple advertising's on the increase! Grower-clients of one of the leading sales agencies for New England apples—The Joseph Sullivan Company of Ayer, Mass.—now tax themselves 2 cents per box to advertise and promote Sullivan-packed apples. This makes three grower-brands of apples that are directly advertised to the public. The others: H. F. Byrd, Inc., with Byrd brand, and Blue Goose Growers, Inc., with Blue Goose brand.

The future doesn't look bright for fruit growing in some western states unless something can be done about the critical water shortage. About 200 key reservoirs are down to 20% capacity...drained by increased population, industry, and farming. A 12-state regional conference of governors is planned in the hope of devising new water conservation projects.

Ocean Spray Cranberries is still working on its "Clickin' with Chicken" campaign to promote its products with poultry. Four-color ads are appearing in the August issues of leading women's magazines.

Where is the Concord grape business going? Growers are worried about overproduction in New York state. New York State Grape Growers Co-operative, Inc., has asked USDA's Farmers Co-operative Service to conduct a survey to determine what new tonnages can be expected from recent plantings, processing capacities, sales, and sales promotion.

Could this be a trend? The C. H. Musselman Company, one of the largest manufacturers of apple products in the world with 5700 acres of orchards in Pennsylvania, is in the process of merging with Pet Milk Company. Musselman plans no changes in methods or personnel...will operate as a division of Pet Milk.

Who's for peach shortcake? Washington State Fruit Commission has been promoting fresh peaches this summer in co-operation with General Mills, manufacturers of Bisquick. Ads featuring fresh peach shortcake are appearing in Northwest newspapers. Meanwhile, the commission is looking for other possible peach and apricot promotion partners to take the place of Ball jars and General Foods' Certo and Sure-Jell, which withdrew this season from their joint promotion relationship.

No support is being offered by California Grape and Tree Fruit League for the fresh grape promotion proposal before the California state legislature. The league decided to discontinue efforts to push a table grape promotion plan when a grower survey revealed substantial opposition.

Don't be surprised if you see automobiles the color of grapefruit on the highways in another six months or so. They will be decked out in "Grapefruit Gold," a new automobile paint with a base of citrus peel oil. This is another Florida Citrus Mutual move to encourage the use of Florida grapefruit by-products.

On the California labor front: California Industrial Welfare Commission has set a minimum wage of \$1 an hour for women and minors aged 16 or older working on farms . . . to become effective early in September.

## PROP YOUR TREES THE EASY WAY

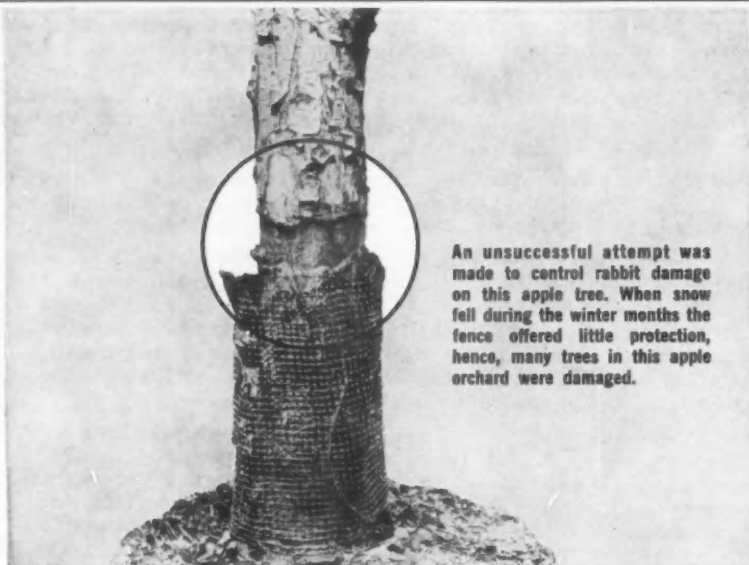


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An unsuccessful attempt was made to control rabbit damage on this apple tree. When snow fell during the winter months the fence offered little protection, hence, many trees in this apple orchard were damaged.

## Avoid Costly Animal Damage to Your Nursery Stock with

### ARASAN® 42-S

THIRAM FUNGICIDE AND REPELLENT

There's no top to a chemical fence... DuPont "Arasan" 42-S protects fruit trees, shrubs, ornamentals and nursery stock from rabbit and deer damage.

- ✓ A stable suspension for easy spraying
- ✓ One application protects three to six months
- ✓ A few cents protects hundreds of dollars investment



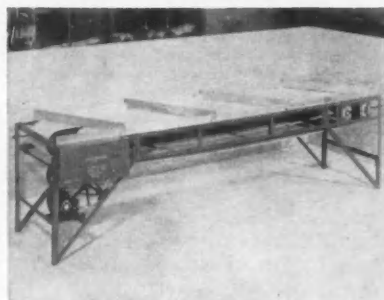
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...through Chemistry

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THIRAM FUNGICIDE AND REPELLENT  
**E. I. DU PONT DE NEMOURS & CO. (INC.)**  
INDUSTRIAL and BIOCHEMICALS DEPARTMENT  
Wilmington 98, Delaware

## NEW FOR YOU

### Packer's Pal

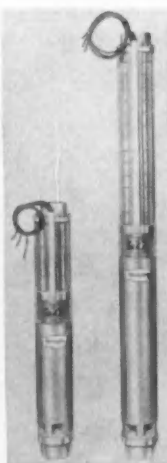
The conveyor belt pictured is one of the handiest packing and bagging aids we've seen in a long time. This new unit features aluminum side rails which are removable and replaceable in 12-inch lengths for bagging set-ups. The belt can be extended from 10 to 60 feet at the drop of a hat. However, the all-steel welded



frame knocks down for low shipment cost. The frame has special triangular legs which give maximum clearance for the feet and for cleaning up. This piece of equipment is obtainable in various belt widths, and in standard and custom lengths. Variable speed drives are optional. Victor Ellis, at Midwestern Machine Company, Belding, Mich., can give you all the answers about this new unit.

### Submerged

Down in southern Ohio a grower is using a new submersible pump for his irrigation system. The new pump operates completely submerged in his lake and will do equally well in reservoirs and wells from 0 to 800 feet deep. The pump delivers 30 to 140 gpm and is easy to install and quite inexpensive. Because the pump operates submerged, it cannot be seen or heard and is free from freezing, dust, and vandalism. The Tait submerged pumps are helping growers to do a better job of irrigation. Get all of the facts for your system by writing G. W. Young, 25 South Main St., Dayton 2, Ohio.



AMERICAN FRUIT GROWER

## GRAPE HARVEST

(Continued from page 9)

methods of trellising, training, and mechanical harvesting of grapes has been underway for some time by University of California workers Winkler, Lamouria, and others. One type of trellis, an inverted-L, has a horizontal arm about 4 feet above the ground which extends 30 inches on one side of the row. Five equally spaced wires are attached to the underside of the arm.

The vines are trained so that all the fruiting parts lay on a horizontal plane on only one side of the row. During the growing season clusters are freed from the shoots and wires so they hang below the wires.

The harvesting is done by a tractor-mounted sickle-bar cutter that floats along the underside of the trellis wires cutting off the clusters. The grapes are caught by a catching device and conveyed into suitable containers. A raisin-lay version of the harvester has been developed whereby a continuous paper tray is laid on the ground and the grapes are conveyed from the cutter onto the paper for drying into raisins.

This all sounds very good, but here are the problems. All the leaves, canes, etc., do not stay above the wires. Too much growth below the wires naturally interferes with cutting and collecting of the grapes and it may affect future pruning and production of the vines.

A more serious problem, however, is the short stemmed nature of most grape varieties. For example, a Thompson Seedless cluster, which has a rather short fruiting stem, will not hang far enough below the trellis wire for the cutter to make a clean cut above the fruiting part of the cluster. Up to 20% of the cluster is left on the vine.

Some long stemmed varieties, such as Malaga, are well suited. Grape breeding to provide clusters suitable for mechanical harvesting is a major objective of the California researchers.

Other developments and refinements are also a part of this California harvesting picture. Among these is a T-shaped trellis so that the fruit is borne in a band on each side of the row center.

In Michigan grape pickers perennially complain about the heavy foliage covering and hiding the grapes. It is estimated that picking could be speeded up 20% or more if part of the leaf cover can be eliminated before harvest.

During the past six years we have applied many different chemicals to defoliate grapes just before harvest. Some of these take the leaves off

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- |              |         |                |
|--------------|---------|----------------|
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| BERRIES      | HONEY   | SWEET CHERRIES |
| BLACKBERRIES | MELONS  | SQUASH         |
| CANTALOUPE   | ONIONS  | TART CHERRIES  |
| CAULIFLOWER  | PEAS    | TURNIPS        |
| CIDER        | PEARS   | WATERMELONS    |
| CUCUMBERS    | PEPPERS |                |

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# GROWERS OPPORTUNITY PAGE

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APPLE GRADERS, CUSTOM BUILT FOR small, medium or large growers. Complete graders from \$262.00 up. Contact your local dealer or write. MIDWESTERN MACHINE CO., Belding, Michigan.

GET MORE BUSINESS WITH ATTRACTIVE outdoor signs. They're easily made with Signcraft Letters. Permanent. Inexpensive. Proven nation wide. NORTHLAND PRODUCTS, Route 22-282, Rockland 25, Maine.

TWO JOHN BEAN SPRAY UNITS, ROYAL 20 pumps, 300 gallon tanks, Wisconsin engines. Write SPRAYER, Box 111, Mt. Joy, Pa.

HAVE YOUR OWN AIR CONDITIONED cold storage. Consult experienced engineering concern specializing in Fruit Storages. Postal card reply O.K. LEE R. KANAGA, 67 Hurlburt Ave., Akron 3, Ohio.

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FREE CATALOGUE—IMPORTED MEXICAN shoes, purses, accessories; handtooled, unborn calf, alligator, suede, genuine shark leather. NORTHERN IMPORT CO., Reed City 2, Michigan.

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beautifully, but also the fruit. Others burn the leaves but the leaves stay on the vines and interfere with picking almost as much as green leaves.

Some impart bad flavors to the fruit. Some do not work at all, or only under special conditions. One or two show promise but are not consistent enough to be suggested even for trial use.

These chemicals also show some promise for mechanical shaking of grapes. An ideal chemical would be one that would defoliate the vine and cause partial abscission of the individual berries without resulting in any unfavorable side effects to the fruit or vine.

The vines could then be gently shaken, and the berries would readily fall into catching frames with little or no tearing of the berry skin. Co-operative tests with USDA engineers Levin and Hedden have shown this would be feasible if such a chemical were available.

Levin, Hedden, and others have also worked on improved handling methods of Concord grapes. Bulk boxes, pallet handling in the vineyard, and rapid transit to processing plants are a part of this program.

In New York a three-wheeled overhead shaking machine (AFG, Sept., 1960) is another development in the mechanical harvesting picture for grapes.

These are only a few examples of what is being done to help reduce the tremendous labor requirements of grape harvesting and handling. Other equally important developments are underway in other areas. Perhaps none of these will lead to the final remedy of practical and profitable mechanization but each may be a step toward it. THE END

## PRODUCT WITH A FUTURE

A NEW polyethylene foam product, developed by Dow Chemical Company, shows unusual promise in preventing bruising of fruits and vegetables in mechanical harvesting and also in grading and packing. Called Ethafoam, the product is lightweight, strong, flexible, and water resistant.

Since it does not take up moisture and is easily cleaned, Ethafoam appears to have a great potential as padding for mechanical harvesting equipment.

This product, still in the developmental stages, may also prove useful in lining large orchard crates into which fruit is dumped for fork-lift handling. Not only would it aid in reducing bruising, but its insulating properties may prove valuable during harvest when there is danger of frost damage to the fruit.

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for budding and grafting  
Perfectly rooted and graded,  
1 yr. rooted layers, budding size  
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Cherries, pears, plums, nut trees, strawberries, blueberries, dwarf fruit trees. Grapevines 10c. Shrubs, evergreens, shade trees, roses 35c up. Quality stock can't be sold lower. Write for FREE color catalog and \$2.00 FREE bonus information.

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Write today for our New FREE Book that gives facts that may save you painful, expensive surgery. Tells how non-surgically you may again work, live, play, and enjoy life in the manner you desire. There is no obligation. Excelsior Medical Clinic, Dept. H6628, Excelsior Springs, Mo.

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## TIPS ON PRUNING

The Pruning Manual by E. P. Christopher  
The latest information on pruning. This book brings up-to-date Liberty Hyde Bailey's famous book of the same title. Over 200 pruning diagrams show how to prune tree fruits, grapes, brambles, shade trees and ornamentals. 320 pages.....\$5.00

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**AMERICAN FRUIT GROWER**  
WILLOUGHBY, OHIO

## Crop Estimates Are Improving

THERE was a time, not too many years ago, when the fruit grower was at the mercy of the buyer. Poorly informed on crop prospects, the grower was often the victim of rumor and deliberate misrepresentation.

Then came improved official crop estimates plus better communication between growers. There was not quite so much chance for manipulation. But government crop estimates were freely criticized as incomplete and inaccurate. In fact, grower groups often felt the estimates to be more damaging than helpful. Resolutions were sometimes passed by local groups, condemning crop estimates and even calling for their elimination.

Little by little, the estimates im-

proved. Grower groups set up plans for estimates of their own, and the "guesstimate" came into being. Today, while not perfect, the estimates of quantity and condition by region and variety are very good, indeed. The size of the pit at hardening is correlated with peach size at maturity. Harvest dates are predicted weeks in advance. The effect of one region on another becomes carefully considered.

There is no need for complacency; there is always room for improvement. But progress has been substantial and we can expect still further refinement as science and statistical methods keep picking away at the weak spots.

## The Gamble Lessens

IT is a great satisfaction and very reassuring to read the reports fruit bargaining associations make to their memberships. The predictions that bargaining associations would measure up to their responsibilities are being realized; and the pessimistic forecasts that they would gouge both the processor and the public are being dispelled.

These agencies, managed and controlled by growers, are proving to be real stabilizing influences in the market. In the final analysis they mean less hazard to all parties concerned and a firmer footing under the industry they represent.

The Cherry Producers Marketing Co-operative is a case in point. A year ago, when a higher price might have been demanded (and many growers were so inclined), the line was held at 7½ cents a pound. At this figure the crop moved out nicely and the carry-over was 58% less than the 10-year average. In 1961, a price of 8¼ cents a pound was asked, in the face of a 6% larger crop but a net reduction of 4% below average per capita supply.

While any matter that requires judgment is always open to argument and to second guessing, nevertheless the pricing so far has been conserva-

tive and steady. It is quite unlike the violent swings of former years that reached 2½ cents one year and 15 cents another, and which were the juicy morsels upon which the speculator often made a killing.

Just as the crop itself has now become considerably stabilized by modern science and improved growing techniques, so now pricing becomes steadier. It is another step in lessening the gamble in the fruit industry.

### Fruit Growing is Such Fun!



It was a year when everything went right.

## Fruit Talk

Sugar kills soil nematodes, according to scientists at USDA Horticultural Laboratory at Orlando, Fla., reportedly brought about by dehydration.

Color development in most varieties of *Vinifera* grapes, according to Weaver and McCune of California, occurs even without light; whereas in peaches, apples, apricots, and pears, full pigmentation is dependent upon light.

And these same authors find a wide range of tolerance in varieties of grapes to gibberellin, used for loosening tight clusters; for example, seedless varieties (Thompson Seedless) will tolerate 100 ppm (even 1000 ppm in some instances) while as little as 5 to 25 ppm may injure seeded varieties (Zinfandel).

Of peaches consumed during 1957-60, 55% were eaten fresh, 42% as canned peaches, 2% dried, and only 1% frozen.

Strawberry production in 1960 was 19 million pounds from winter and early spring states; 234 million from mid-spring states (157 million from California); and 201 million from late spring states (Oregon, 73 million; Washington, 43 million; and Michigan, 39 million).

For those who think the export market for fruits amounts to little, it should be noted that the average value (1957-59) was \$258 million, of which \$38.8 million were for fresh oranges, \$30.1 million for citrus juices, \$12.7 million for fresh apples, \$15.4 million for fresh grapes, \$15.1 million for canned peaches, \$12.9 million for canned fruit cocktail, \$17.0 million for dried prunes, \$12.2 million for raisins, and \$14.5 million for nuts and preparations.

"Marketing orders," says Ralph Bunje of the California peach industry, "cannot be expected to guarantee profitable returns. They can only be expected to stand as a bulwark against disastrous prices to growers and canners."

This is a complicated world (in case you did not already know!); no single factor can be considered alone. And now it seems, according to Juniper and Bradley in England, that soil applications of TCA and of dalapon actually reduce the deposits of waxy materials that occur on the surfaces of leaves—with what effect on the plant nobody yet knows.

Visitors to Europe are usually surprised at the extensive damage to fruit crops by birds, and the elaborate protection required. America has been relatively free. Now comes word from Massachusetts by R. N. Smith that a survey in 1960 showed a loss of 84 acres of blueberries from 310 total, and 13 acres of early peaches from 150 total.

"An apple for a penny" (or any other fruit) is the offer to neighborhood children by local growers who are interested in building good will for the future as well as the present.

—H.B.T.

## Coming

- Hydrocooling Apples
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## NOTHING BEATS CAPTAN

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Captan is the standard fungicide for scab and summer diseases because it's the safest, most effective. It lets fruit develop fine color and finish, has increased fruit size and yields. Biennial bearing apple trees have often become annual bearers when sprayed each year throughout the season with captan.

From petal-fall to harvest, Stauffer Captan 50-W controls apple scab, frog-eye leaf spot, Botrytis calyx-end rot, Brooks fruit spot, sooty blotch,

fly speck, black rot, black pox, bitter rot and Botryosphaeria (Bot rot or white rot).

Stauffer Captan 50-W is also the preferred fungicide in late cover and pre-harvest peach sprays because it gives the best color, finish and shipping qualities. It can be used up to and during harvest if conditions favor the development of fruit rots.

Captan is highly recommended for common summer diseases of cherries, grapes, pears, plums, prunes, raspberries and strawberries.

See your dealer. Specify Stauffer Captan 50-W. For a helpful new folder write to Stauffer Chemical Company, 380 Madison Avenue, New York 17, N. Y.



